



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/044,368

01/10/2002

Thomas E. Broome

1001.1388101

8240

28075 7590 02/26/2007  
CROMPTON, SEAGER & TUFTE, LLC  
1221 NICOLLET AVENUE  
SUITE 800  
MINNEAPOLIS, MN 55403-2420

EXAMINER

EREZO, DARWIN P

ART UNIT

PAPER NUMBER

3731

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

02/26/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/044,368

Applicant(s)

BROOME ET AL.

Examiner

Darwin P. Erez

Art Unit

3731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 5-31, 52, 54-72 and 74-93 is/are pending in the application.
- 4a) Of the above claim(s) 5-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 52, 54-72 and 74-93 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 52, 54, 55, 57-72, 74, 75 and 77-93 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,605,102 to Mazzocchi et al.

As to claims 52, 72 and 92, Fig. 11B discloses a filter assembly comprising an elongate shaft **265**, a filter **270** disposed and attached to a distal end of the shaft, the filter including a filtering region and an attachment region (col. 19, line 66 – col. 20, line 8). The filtering region includes a major opening defined adjacent the proximal end (seen in Fig. 18B) and is comprised of a single layer of filter membrane that is folded onto itself to define a filter basked and extending between the major opening and the distal end of the filtering region, the filtering region comprising apertures to allow the passage of blood through the filtering region; the filter membrane further comprising a first tapered portion defining a first angle that is lesser (different) than a second angle defined by a second tapered portion (see attached in the Office Action dated 06/01/2006).

Mazzocchi also discloses a filter having an expanded (Fig. 11B) and contracted shape (Fig. 11A); wherein the filtering region has at least one single layer of filter membrane in the expanded shape.

As to claims 54, 55, 74 and 75, different portions of the filter can be sectioned off to be called the first or second portion, and each of these portion can be selected so that the first portion has a conical shape and the second portion has a frustoconical shape.

As to claims 57 and 77, the filter membrane is viewed as an expandable frame membrane because the transition from Fig. 11A to 11B shows the filter membrane expanding.

As to claims 58-60 and 78-80, the filter membrane (frame) is formed from Nitinol (col. 5, lines 27-52).

As to claims 61-63 and 81-83, the filter membrane is viewed as having filter struts and a filter mouth frame because the filter membrane is comprised of wire strands that are intertwined with each other, and thus are capable of biasing the filter to any position, including an expanded position, and any portion of the filter can be called the filter mouth.

As to claims 64-69 and 84-89, see Fig. 12A regarding the dimension of the first tapered portion relative to retrieval sheath C, which is used to retrieve the filter. The filter is also viewed as having a wire that limits the tapering portion because the filter itself is comprised of a wire.

As to claims 70,71,90,91 and 93, see Fig. 11B, which shows an attachment region of the filter membrane and (at least four) struts **290**.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 56 and 76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mazzocchi et al. and in view of US 5,814,064 to Daniel et al.

Mazzocchi teaches all the limitations of the claim except for the filter membrane comprising a polyurethane. Instead, the filter membrane of Mazzocchi comprises metal. However, Daniel teaches a filter assembly comprising an elongated shaft with a filter membrane forming a filter basket (Fig. 18B), which is similar to Mazzocchi. Daniel further teaches the filter membrane to be made of polyurethane (col. 10, line 44-45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use polyurethane in the filter membrane of Mazzocchi because Daniel teaches that polyurethane can be used to form filter membranes. As such, using a specific type of material to form the filter membrane would be a mere design choice to one of ordinary skill in the art.

***Response to Arguments***

5. Applicant's arguments filed 12/01/2006 have been fully considered but they are not persuasive.

Art Unit: 3731

6. The applicant amended the independent claims to recite the filter having an expanded and contracted shape, and wherein the filter comprises a single layer of filter membrane in the expanded shape. However, it is noted that the both independent claims use the transitional phrase "comprising", which renders the claims open-ended. That is, the phrase does NOT exclude any element, step, or ingredient not specified in the claim. Therefore, the Mazzocchi reference, which discloses a filter layer having two layers of filter membrane, also discloses a filter having a "single filter layer" and an additional filter layer.

#### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darwin P. Erez who whose telephone number is (571) 272-4695. The examiner can normally be reached on M-F (8:00-4:30).

Art Unit: 3731

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anhtuan T. Nguyen can be reached on (571) 272-4963. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Darwin P. Erez  
Examiner  
Art Unit 3731

de

  
ANH TUAN T. NGUYEN  
SUPERVISORY PATENT EXAMINER  
